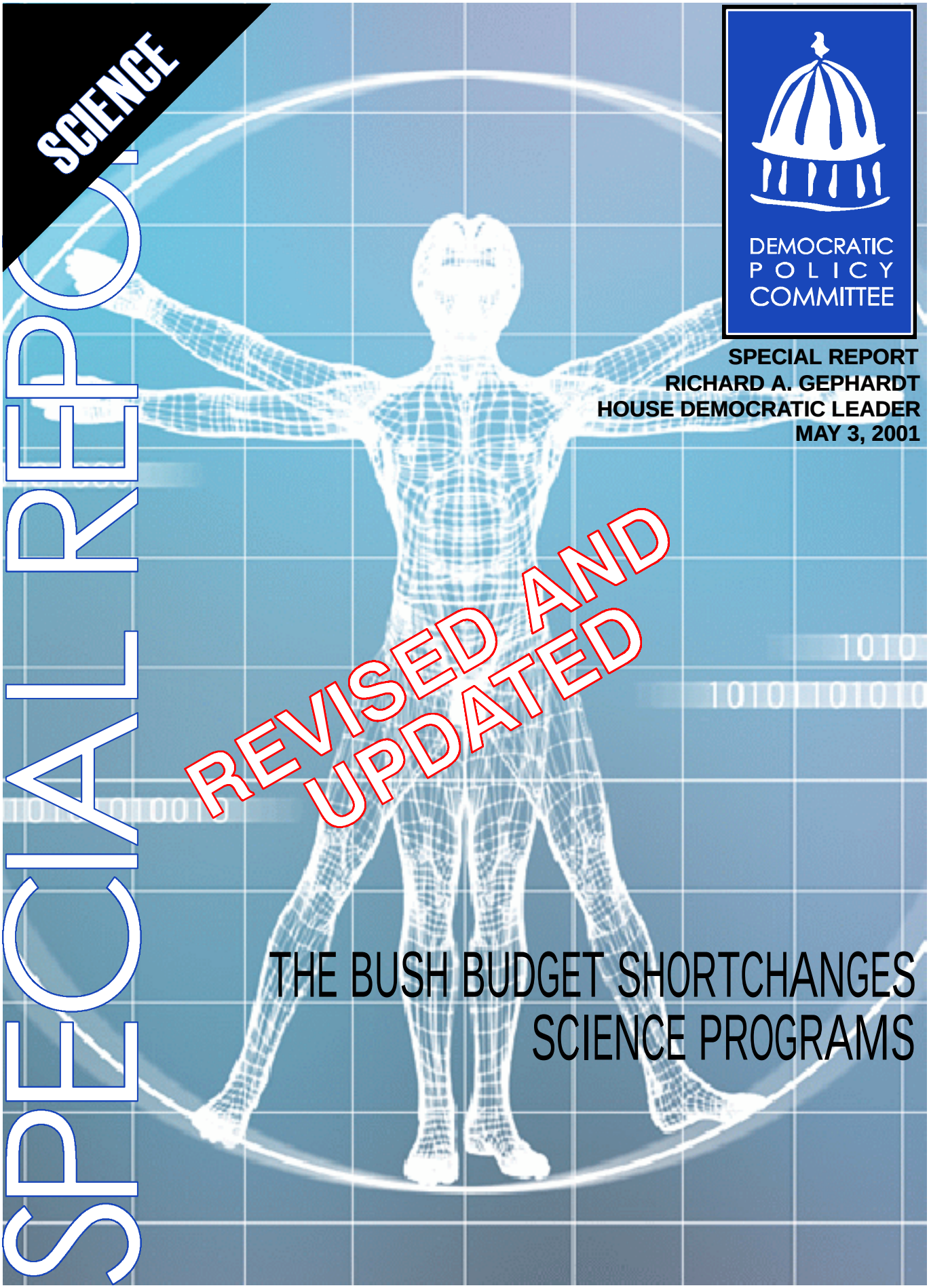
SCIENCE
SPECIAL REPORT
DEMOCRATIC
POLICY
COMMITTEE
SPECIAL REPORT
RICHARD A. GEPHARDT
HOUSE DEMOCRATIC LEADER
MAY 3, 2001
REVISED AND
UPDATED
THE BUSH BUDGET SHORTCHANGES
SCIENCE PROGRAMS

THE BUSH BUDGET SHORTCHANGES SCIENCE PROGRAMS

– A Revised, Updated Version of Special Report –

"The federal investment in science has yielded stunning payoffs. It has spawned not only new products, but also entire industries. To build upon the strength of the research enterprise we must make federal research funding stable and substantial ... and promote creative, groundbreaking research."

National Science Policy report (authored by Rep. Ehlers (R-MI) and endorsed by the House in 1998)

"Science and technology are the keystones of our economic prosperity" and "advances in science and technology do not come cheap or without focused effort."

2001 Majority Views and Estimates of the House Science Committee

"If the United States does not invest significantly more in public research and development, it will be eclipsed by others."

Hart-Rudman Commission on National Security/21st Century (a bipartisan group including former Reps. Gingrich and Hamilton)

Cuts in Bush Science Budget Fly in The Face of A Bipartisan Consensus for Increased Federal Investments in Science

As the above quotes demonstrate, over the last several years, there has developed a truly bipartisan consensus that increased federal investments in science are key ingredients of continued economic prosperity.

That is why it is particularly surprising that the Bush budget cuts funding levels for the National Science Foundation, the National Aeronautics and Space Administration, and the Energy Department's civilian science programs for FY 2002 below the level needed to maintain purchasing power for programs at the current-year level!

The Bipartisan Negative Reaction to the Bush Science Budget

Indeed, since the Bush budget "blueprint" was unveiled on February 28, there has been a great deal of criticism – both by Democrats and Republicans – regarding the science budget being proposed by the President.

For example, Professor Allan Bromley, who was the Technology Adviser to President George H. W. Bush from 1989 to 1993, and is currently a Professor of Nuclear Physics at Yale, published a column in the New York Times on March 9 that was highly critical of the Bush science budget. Excerpts from the Bromley column are below:

"The major driver of our nation's economic success is scientific innovation. And yet the Bush budget includes cuts, after accounting for inflation, to the three primary sources of ideas and personnel in the high-tech economy: the National Science Foundation, the National Aeronautics and Space Administration, and the Department of Energy.

"Economists, including Alan Greenspan, attribute much of America's 1990's boom to increased productivity stemming, in large part, from scientific research. Two simple discoveries – the transistor and the fiber optic cable – are at the root of it. ... The 21st century economy will continue to depend on scientific innovation. Economists estimate that innovation and the application of new technology have generated at least half of the phenomenal growth in America's gross domestic product since World War II. Keeping that economic source productive is critical to both national prosperity and federal revenues. ...

"Technological innovation depends upon the steady flow of discoveries and trained workers generated by federal science investments in universities and national laboratories. These discoveries feed directly into the industries that drive the economy. It's a straightforward relationship: industry is attentive to immediate market pressures, and the federal government makes the investments that ensure long-term competitiveness. The proposed cuts to scientific research are a self-defeating policy. Congress must increase the federal investment in science. No science, no surplus. It's that simple."

Similarly, Rep. Lynn Rivers (D-MI), a senior member of the House Science Committee, has been very critical of the Bush budget request for science, as follows:

"This budget request remains sketchy, but what we do know suggests our science programs will not receive adequate support from the Bush Administration. The President is to be congratulated for understanding how important health research is at NIH – keeping that agency on track to double its budget. However, I hope that the Administration will reconsider its requests for NSF and NASA. Neither of those critical agencies are scheduled to receive increases that would even keep pace with inflation and that just isn't wise. If we are going to keep developing a new, information-based economy, we have to invest in the research initiatives that drive that growth. This budget looks like it will fall short on that account."

Science Funding Overall

According to the detailed budget submitted to Congress by President Bush on April 9, the President is seeking $21.2 billion in FY 2002 for "general science, space, and technology programs" – **which represents a cut of $229 million below the amount needed, according to the Congressional Budget Office, to maintain purchasing power at the FY 2001 level**. (These programs include the National Science Foundation programs, the NASA space programs, and the civilian science programs at the Energy Department.)

National Science Foundation

The Bush budget provides $4.47 billion in appropriations for the National Science Foundation for FY 2002 – **which represents a cut of $54 million below the level needed, according to the Congressional Budget Office, to maintain purchasing power at the FY 2001 level.**

The National Science Foundation is a critically important agency in supporting scientific research across the country. Indeed, although the National Science Foundation (NSF) is only 3% of the federal R&D budget, **NSF supports about 50 percent of the non-medical basic research conducted at academic institutions across the country**. In light of the critical importance of the NSF, the Bush Administration's budget request for NSF for FY 2002 is deeply disappointing.

The Bush budget provides an increase of only $56 million (1%) over the FY 2001 enacted level, and all of that goes to education programs rather than research. **Adjusted for inflation, the Bush request will result in a three to four percent decline in NSF's budget for competitive research grants.**

Within this declining budget, NSF is instructed to launch a $200 million initiative in science education, introduce a new program in mathematics research, and maintain existing research initiatives in information technology, bio-complexity, and nanotechnology. **The core, discipline-based research programs at NSF will be eroded by inflation and by these new initiatives**.

Both Democrats and Republicans see the Bush budget request for NSF as inadequate. For example, according to a February 16th article in the Wall Street Journal, Rep. James Walsh (R-NY), who oversees the National Science Foundation's budget on the House Appropriations Committee, called it "absurd" to expect the NSF to be held to the $56 million increase over FY 2001 that is being proposed by Bush.

National Aeronautics and Space Administration

The Bush budget contains $14.51 billion in appropriations for the National Aeronautics and Space Administration (NASA) for FY 2002 – **which represents a cut of $160 million below the amount needed, according to the Congressional Budget Office, to maintain purchasing power at the FY 2001 level.**

As the details in the Bush budget unveiled on April 9 make clear, Bush Administration is proposing cutting NASA's aeronautics programs, eliminating two planned space science projects (the Pluto-Kuiper Express and Solar Probe missions), discontinuing remote sensing and environmental applications projects, and reducing information technology programs. No convincing rationale for these cuts is provided other than the implicit one of attempting to meet an artificially low funding level for NASA as a whole.

Civilian Science Programs at the Energy Department

There are very important civilian science programs at the Department of Energy and it is also disappointing to see spending cuts in the Bush budget in this area. The Bush budget request includes $3.16 billion in FY 2002 for the Department of Energy's Office of Science – a net decrease of $19 million below the FY 2001 enacted level. While most accounts show minor increases, two key accounts are cut. Biological and Environmental Research receives $443 million – a cut of $50 million or 10% from the FY 2001 enacted level. In addition, the Fusion Energy Sciences account receives $238 million – a cut of $11 million or 4.4% below the FY 2001 enacted level.

Science/Technology Programs at the Commerce Department

There are also very important science/technology programs at the Commerce Department – including the critically-important Advanced Technology Program within the National Institute on Standards and Technology (NIST). The Bush budget proposes suspending the Advanced Technology Program (ATP) – pending a review. ATP is a federal program that pays for research into emerging technologies such as digital TV components and new ways to diagnose genetic diseases.

Scientists and companies that have received federal funds from the Advanced Technology Program say cutting it would leave a huge gap in the availability of investments in future technology. For example, Henry Kelly, president of the Federation of American Scientists, points out, "There's a huge [funding] gap that's left in places where the public has an interest in moving technology forward. The Advanced Technology Program has filled that gap brilliantly."

The Bush budget also cuts the Manufacturing Extension Program within the National Institute on Standards and Technology. The budget provides $106 million for the program in FY 2002 – which is a cut of $5 million from the FY 2001 enacted level, which will permit neither an expansion of the current system nor any new initiatives.

Other Agencies

Finally, another key research agency is the U.S. Geological Survey. The President's budget cuts the U.S. Geological Survey's budget to $813 million – $69 million (8.5%) below the FY 2001 enacted level. This overall cut includes $20 million from the National Water-Quality Assessment Program (NAWQA) and $10 million from the Toxic Substances Hydrology Program. NAWQA does essential water-quality monitoring and research to assess the state of the nation's waters and the pollution threats to those waters. The Toxic Substances Hydrology Program monitors the toxic substances in ground and surface

water.

Such a steep cut at the U.S. Geological Survey is sure to inspire a great deal of criticism. Water supply and quality are a large part of the geological agency's mission – issues of critical importance in the West. Indeed, Rep. Ralph Regula, a senior member of the House Appropriations Committee, has described the Geological Survey as "the premier science agency for the management of public lands." Hence, a cut at the U.S. Geological Survey will be fought by many.